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Consistently Using Evidence-Based Practices Remains a Challenge...

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#### Hand Hygiene Compliance in Healthcare Workers

(Erasmus et al. Infect Control Hosp Epidemiol March 2010)

- · Systematic review of 96 studies
- Overall median compliance of 40%
- Lower rates in physicians (32%) than nurses (48%)
- Lower rates "before" (21%) patient contact rather than "after" (47%)

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#### Given this Gap Between What Should Be Done and What Is Done...

- Focus on "implementation science"
- "The scientific study of methods to promote the systematic uptake of research findings into routine practice"

(Eccles & Mittman. Implementation Science. Feb 2006)

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# Healthcare-Associated Infections: Common, Costly, & Harmful

#### ~1 million

Americans develop a healthcare-associated infection each year

- ~50% of infections could be prevented
- Preventive practices used inconsistently

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## Catheter-Associated Urinary Tract Infection (CAUTI)

- One of the most common infections
- 1/4 of inpatients receive catheters
- 1/3 of catheter days unnecessary
- 1/3 of physicians unaware their patient has a catheter
- 1/3 of the time no order for a catheter



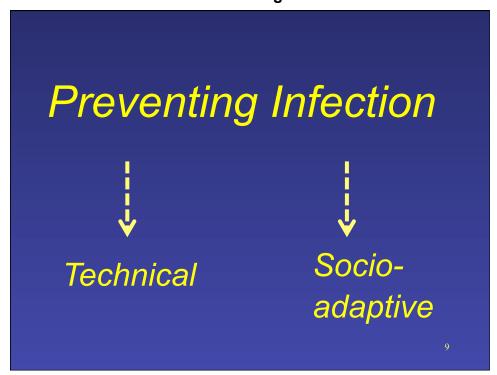
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### Why are some facilities better than others?

What can we learn from successful facilities?

How can we implement change broadly to improve care?

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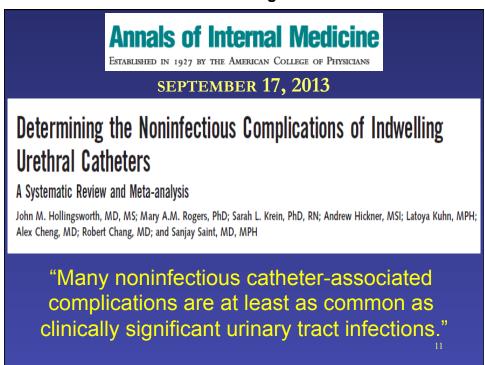


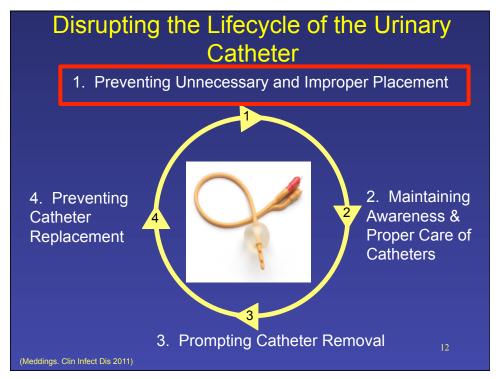
## Catheter-Associated Urinary Tract Infection (CAUTI)

- UTI is a common cause of hospitalacquired infection
- · Most due to urinary catheters
- Up to 20% of inpatients are catheterized
- Leads to increased morbidity and healthcare costs

www.catheterout.org







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## The Most Common Venue for Foley Placement?

# Emergency Department



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#### 2009 Prevention of CAUTI HICPAC Guidelines

(Gould et al, Infect Control Hosp Epidemiol 2010; 31: 319-326)

#### Table 2.

#### A. Examples of Appropriate Indications for Indwelling Urethral Catheter Use 14

Patient has acute urinary retention or bladder outlet obstruction

Need for accurate measurements of urinary output in critically ill patients

Perioperative use for selected surgical procedures:

- Patients undergoing urologic surgery or other surgery on contiguous structures of the genitourinary tract
- Anticipated prolonged duration of surgery (catheters inserted for this reason should be removed in PACU)
- Patients anticipated to receive large-volume infusions or diuretics during surgery
- Need for intraoperative monitoring of urinary output

To assist in healing of open sacral or perineal wounds in incontinent patients

Patient requires prolonged immobilization (e.g., potentially unstable thoracic or lumbar spine, multiple traumatic injuries such as pelvic fractures)

To improve comfort for end of life care if needed

#### Alternatives to Consider

- 1) Accurate daily weights
- 2) Urinal/commode/bedpan
- 3) Condom catheters
- Intermittent catheterization with bladder scanning

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#### Avoiding Indwelling Catheter Insertion in the ED

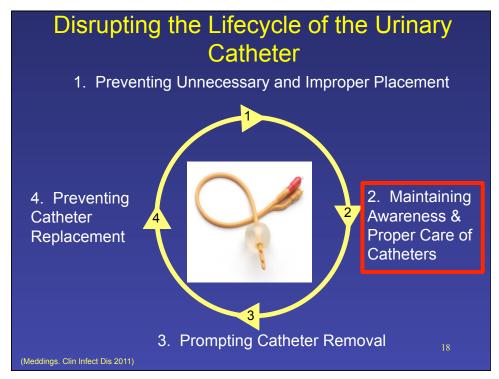
- 2 studies have intervened in the ED to reduce insertion:
- 1) Gokula et al. ER staff education and use of a urinary catheter indication sheet improves appropriate use of Foley catheters. Am J Infect Control. 2007:
  - 75% fewer indwelling catheters inserted after the intervention
- 2) Fakih et al. Effect of establishing guidelines on appropriate urinary catheter placement. Acad Emerg Med. 2010:
  - Physicians ordered 40% fewer insertions after the intervention

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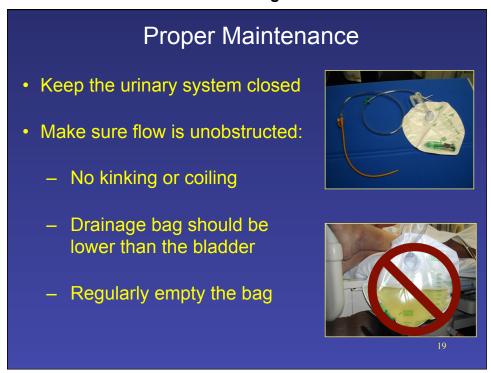
## But if the patient really, really needs a Foley...

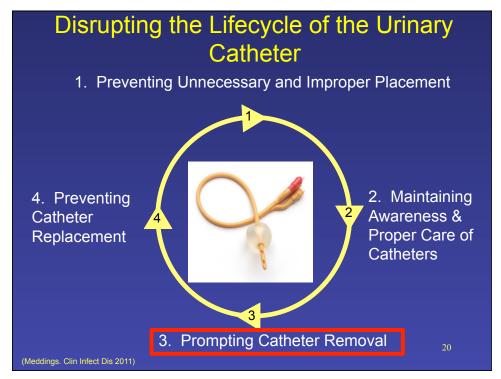
Ensure proper aseptic technique is used during insertion

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#### The Technical: Timely Removal of Indwelling Catheters

- 30 studies have evaluated urinary catheter reminders and stop-orders
  - Significant reduction in catheter-associated urinary tract infection (53%)
  - No evidence of harm (ie, re-insertion)
  - Will also address the non-infectious harms of the Foley

Meddings J et al. BMJ Qual Saf 2013

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#### What about the ICU?

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#### NHSN Data: Intensive Care vs. General Wards (Edwards, Am J Infect Control 2009: Dudeck, Am J Infect Control, 2011)

Urinary Catheter Use: ICU > General Units

Unit	2006-8 Urinary Catheter Utilization Ratio	2009 Urinary Catheter Utilization Ratio
ICU (med-surg)	0.79	0.72
General Wards (med-surg)	0.22	0.19

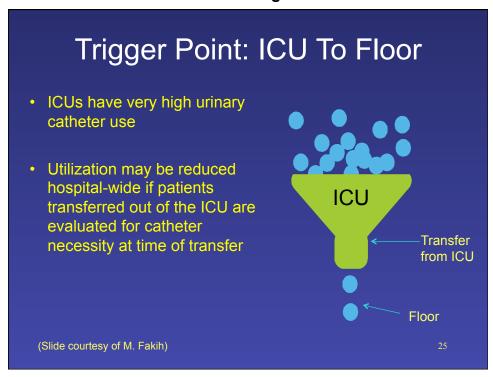
(Slide courtesy of M. Fakih)

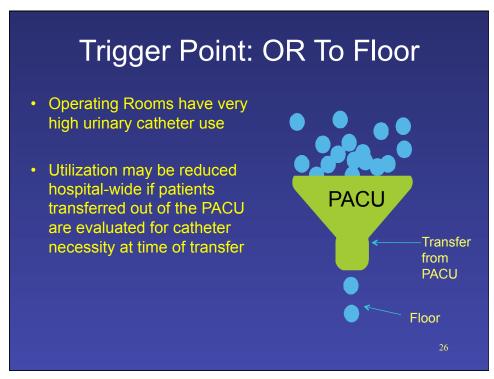
Just because a patient is in the ICU does NOT mean that the patient needs a Foley...

The Key Question is this:

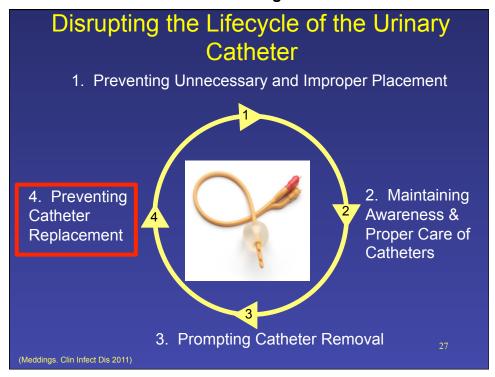
Are hourly assessments of urine output required?

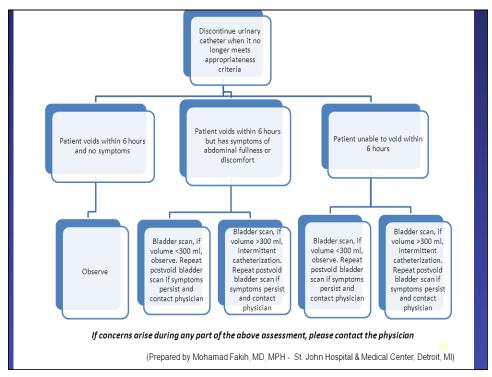
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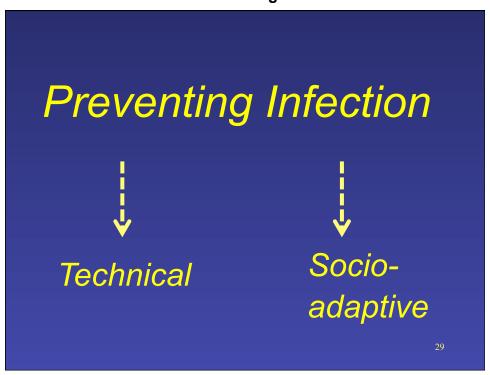


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"The hospital is the most complex human organization ever devised..."

Peter Drucker





CAUTI ↓ by 25% in Michigan hospitals (95% CI: 13 to 37% ↓ )

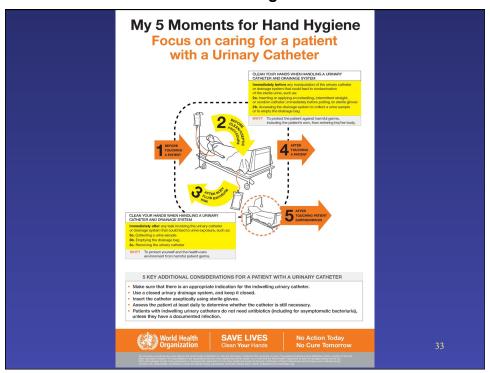
CAUTI ↓ by 6% in non-Michigan hospitals (95% CI: 4 to 8% ↓)

(Saint et al. JAMA Intern Med 2013)

#### **Broad Implementation**

- Federally-funded project aimed to reduce CAUTI rates
- 4-year project (Sept 2011 Aug 2015)
- · To date: 40 states, District of Columbia, & Puerto Rico
  - -~1000 hospitals
  - 30% reduction on medical-surgical units (Fakih IDWeek
- World Health Organization
  - Italy, Japan, Africa, Latin America ...

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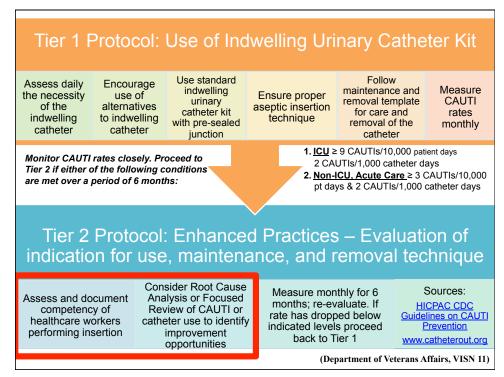


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#### **Additional Approaches**

- 1) Tier 1 & Tier 2
- 2) CAUTI GPS
- 3) Applying Mindfulness to CAUTI

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## Self-Assessment Tool for Hospitals and Units

CAUTI Guide to Patient Safety ("CAUTI GPS")

- A 1-page (10-item) trouble-shooting guide
- Help identify the key reasons why hospitals may not be successful in preventing CAUTI
- Once the barriers are identified, can then propose and implement solutions

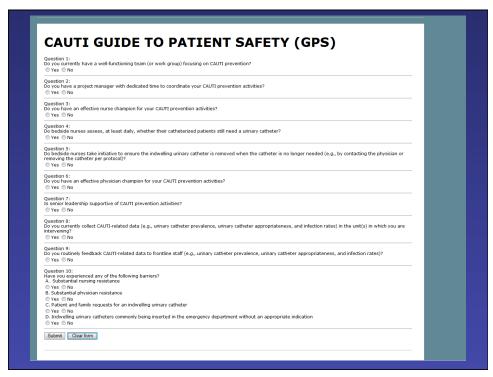
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#### CAUTI Guide to Patient Safety (GPS)

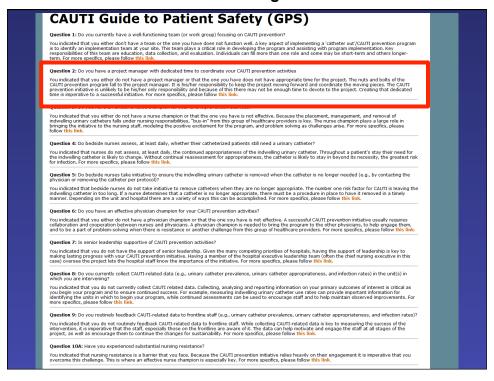
- On-line tool
- Each question linked to troubleshooting tips



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CAUTI Guide to Patient Safety (GPS) Q2 www.catheterout.org Because the project manager (also referred to as the team leader) is responsible for coordinating and facilitating meetings, team communication, and overseeing that members understand their roles and follow through on their responsibilities, it is imperative that s/he has dedicated time to commit to the project. 1. If nobody has been identified for this role o Ask senior leadership for advice about who they recommend and who they can provide with some protected time to do this work. o Find someone who has been successful in coordinating a quality improvement initiative o Experience and knowledge of the topic is secondary in importance to leadership skills, enthusiasm, persistence, and credibility. The leader will be expected to reach out to the content experts for guidance related to the technical aspects of the work. 2. If the selected project manager is not as effective as necessary o Check to see if s/he has been given dedicated time to work on this particular project. If not, engage leadership to help with this. o S/he may be lacking some of the necessary skills. We have found that coaching him/her on what they can improve upon can be very helpful. o S/he may not be a good fit for the initiative, and it may be time to consider replacing him/her with someone else. 3. For a better understanding of what makes a project manager successful o Top 10 Qualities of a Project Manager o Top 10 Characteristics of GREAT Project Managers 4. Further reading suggestions

#### **Additional Approaches**

- 1) Tier 1 & Tier 2
- 2) CAUTI GPS
- 3) Applying Mindfulness to CAUTI

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#### A Dilemma

- Much of what we do in healthcare especially in the hospital – is reflexive
  - If a patient is hypoxemic: we give oxygen
  - -Low BP: IV fluids
  - -Positive blood cultures: antibiotics
  - -Frequency, urgency, and dysuria: dx UTI

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#### A Dilemma

- These rote responses are usually helpful
- However, this reflex-like approach can lead to problems
  - –Pt sick enough to be admitted from the ED: Foley catheter
  - Asymptomatic catheterized patient has a "dirty" urine: antibiotics

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# One Possible Solution: "Medical Mindfulness"

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#### One Possible Solution: "Medical Mindfulness"

- Being in the moment and considering decisions carefully before jumping to reflexive action
- Daniel Kahneman:
  - Intuition (System 1): fast, automatic, effortless;
     difficult to alter
  - Reasoning (System 2): slower, effortful, & flexible
- In medicine, we are constantly toggling back-andforth between the reflexive and the complex
- How can we apply this to everyday practice?

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#### Applying Mindfulness to Bedside Nursing: Catheter-Associated Urinary Tract Infection

(Kiyoshi-Teo et al. Infect Cont Hosp Epid 2013)

- Taking a 5-second "pause" before...
  - Inserting an indwelling catheter
  - Emptying the drainage bag or transporting the patient
- Asking...
  - Is it absolutely necessary to use an indwelling catheter in this patient? Can I use an alternative?
  - Am I using proper technique? Do I need to ask for help? Can the catheter be removed today?

#### Summary

- CAUTI and indwelling catheter use are important patient safety issues
- There are proven approaches to reduce catheter use and thereby prevent CAUTI
- Both technical and socio-adaptive aspects are important in preventing infection
- Several options if you still have not achieved the results you would like

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#### Conclusion

# Preventing CAUTI is a Team Sport!

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March 11 (Free WHO Teleclass - Europe)

USING THE CORE COMPONENTS OF INFECTION CONTROL DURING THE EBOLA OUTBREAK

Dr. Sergey Eremin, World Health Organization

March 12 INFECTION PREVENTION AND CONTROL IN CORRECTIONAL SETTINGS

Carolyn Herzig, Columbia University Mailman School of Public Health

March 26 PREVENTION OF CLOSTRIDIUM DIFFICILE INFECTION – WHAT WE FIND IN GUIDELINES

Prof. Walter Zingg, University of Geneva Hospitals, and Dr. Maria Martin, University Medical Center Freiburg

April 09 FAECES MANAGEMENT: TIME TO ADDRESS THE RISKS

Jim Gauthier, Providence Care, Kingston, Ontario Sponsored by Meiko (www.meiko.de)

www.webbertraining.com/schedulep1.php

